

Applicant : Jihad A. Mustapha
Serial No. : 10/773,709
Page : 2

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the present application:

1 (currently amended): An cardiovascular stent and balloon assembly comprising:

a stent comprising:

a first longitudinal portion having at least a first degree of expandability; and
a second longitudinal portion having at least a second degree of expandability greater than the first degree of expandability, said second longitudinal portion terminating in one end of the said stent, whereby said one end of said stent can be expanded beyond said first longitudinal portion;

a balloon comprising:

a first balloon portion having a first diameter when inflated; and
a second balloon portion having a second diameter when inflated, said second diameter being greater than said first diameter;

wherein said balloon is disposed within said stent so that said first balloon portion is within said first longitudinal portion of said stent and said second balloon portion is within said second longitudinal portion of said stent; and

whereby inflation of said balloon causes expansion of said first longitudinal portion of said stent to a first expanded diameter and expansion of said second longitudinal portion of said stent to a second expanded diameter, said second longitudinal portion forming a flange at an interior wall of a vessel when said stent and balloon assembly is deployed.

2 (currently amended): A cardiovascular stent and balloon assembly as defined in claim 1 wherein said stent comprises struts, the length of ~~the said struts in the of~~ said first longitudinal portion differing from the length of the struts ~~in the of~~ said second longitudinal portion.

3 (currently amended): A method of treating a secondary cardiovascular vessel extending from a primary cardiovascular vessel, said method comprising the steps of:

Applicant : Jihad A. Mustapha
Serial No. : 10/773,709
Page : 3

providing a stent having distal and proximal stent portions, ~~the said proximal stent~~
portion being more expandable than ~~the said distal stent portion~~;

providing a balloon within said stent, said balloon having a distal balloon portion and
a proximal balloon portion, said distal balloon portion being within said distal stent portion
and said proximal balloon portion being within said proximal stent portion, said proximal
balloon portion being more expandable than said distal balloon portion;

positioning ~~the said stent~~ so that ~~the said distal stent portion of the stent~~ is located in
the secondary vessel and ~~the said proximal stent portion of the stent~~ is located in the primary
vessel; and

inflating said balloon, whereby said distal balloon portion expands said ~~expanding the~~
distal ~~stent portion of the stent~~ to support the secondary vessel and ~~and expanding the~~
whereby said proximal balloon portion expands said proximal stent portion of the stent to
form a flange engaging an interior wall of the primary vessel.

4 (currently amended): A method as defined in claim 3 wherein ~~said providing step a stent~~
comprises ~~includes providing the a stent~~ with struts of varying length along the length of the
stent.

5 (currently amended): A stent and balloon assembly comprising:

a stent comprising:

a distal stent portion having at least a first degree of expandability; and

a proximal stent portion having at least a second degree of expandability
greater than the first degree of expandability, said proximal stent portion terminating at one
end of the stent, whereby said one end can be expanded beyond said distal stent portion; and

a balloon comprising:

a distal balloon portion having a first diameter when inflated; and

a proximal balloon portion having a second diameter when inflated, the said
second diameter being greater than the said first diameter, said balloon being disposed within
said stent such that said distal balloon portion is within said distal stent portion and said
proximal balloon portion is within said proximal stent portion, whereby said balloon is

Applicant : Jihad A. Mustapha
Serial No. : 10/773,709
Page : 4

capable of expanding ~~a said stent in which it is positioned~~ to two different extents corresponding to ~~the said first and second diameters and whereby said proximal balloon portion expands said proximal stent portion of said stent to form a flange for engaging an interior wall of a vessel and at an inlet to another vessel in which said distal stent portion is disposed.~~

6 (currently amended): A stent and balloon assembly as defined in claim 5 wherein:

said distal balloon portion is ovoid shaped and has a length dimension that is greater than its diameter dimension; and

said proximal balloon portion is bulbously shaped and has a diameter dimension that is greater than its length dimension.

7 (original): A method of treating a cardiovascular bifurcation including an inlet portion and two outlet portions meeting in a junction, said method comprising the steps of:

inserting a first stent in the inlet portion and one of the outlet portions on either side of the junction;

expanding the first stent to support the inlet portion and the one outlet portion;

inserting a second stent through a wall of the first stent so that (1) a distal portion of the second stent is located in the other outlet portion, and (2) a proximal portion of the second stent is located within the first stent;

expanding the distal portion of the second stent to support the other outlet portion; and expanding the proximal portion of the second stent so that the proximal portion engages the inner wall of the first stent in a flange-like arrangement.

8 (currently amended): A method as defined in claim 7 wherein ~~said inserting step includes a second stent comprises~~ inserting a second stent having struts of varying length along the length of ~~the said second stent.~~

9 (canceled).

Applicant : Jihad A. Mustapha
Serial No. : 10/773,709
Page : 5

10 (new): A method as defined in claim 7 wherein expanding said second stent comprises expanding said second stent via a balloon having a distal balloon portion having a first diameter when inflated and a proximal balloon portion having a second diameter when inflated, said second diameter being greater than said first diameter.

11 (new): A method as defined in claim 10 wherein:

said distal balloon portion is ovoid shaped and has a length dimension that is greater than its diameter dimension; and

said proximal balloon portion is bulbously shaped and has a diameter dimension that is greater than its length dimension.

12 (new): A cardiovascular stent and balloon assembly as defined in claim 1 wherein:

said first balloon portion is ovoid shaped and has a length dimension that is greater than its diameter dimension; and

said second balloon portion is bulbously shaped and has a diameter dimension that is greater than its length dimension.

13 (new): A cardiovascular stent and balloon assembly as defined in claim 1 wherein said first and second balloon portions are integrally connected to one another, whereby inflation of said balloon results in inflation of both portions of said balloon.

14 (new): A cardiovascular stent and balloon assembly as defined in claim 2 wherein the length of said struts in said proximal stent portion is greater than the length of said struts of said distal stent portion.

15 (new): A method as defined in claim 3 wherein:

said distal balloon portion is ovoid shaped and has a length dimension that is greater than its diameter dimension; and

said proximal balloon portion is bulbously shaped and has a diameter dimension that is greater than its length dimension.

Applicant : Jihad A. Mustapha
Serial No. : 10/773,709
Page : 6

16 (new): A method as defined in claim 3 wherein said distal and proximal balloon portions are integrally connected to one another, whereby inflation of said balloon results in inflation of both portions of said balloon.

17 (new): A method as defined in claim 4 wherein the length of said struts in said proximal stent portion is greater than the length of said struts of said distal stent portion.

18 (new): A stent and balloon assembly as defined in claim 5 wherein said stent comprises struts, the length of said struts of said distal stent portion differing from the length of the struts of said proximal stent portion, and wherein the length of said struts in said proximal stent portion is greater than the length of said struts of said distal stent portion.

19 (new): A method of treating a cardiovascular bifurcation including an inlet portion and first and second outlet portions meeting at a junction, said method comprising:

inserting a first stent in the inlet portion and the first outlet portion;

expanding said first stent to support at least a portion of the inlet portion and at least a portion of the first outlet portion, said first stent extending along the inlet portion and the first outlet portion so that a wall of said first stent at least partially encompasses the inlet to the second outlet portion;

inserting a second stent through an opening in said wall of said first stent so that (1) a distal portion of said second stent is located in the second outlet portion, and (2) a proximal portion of said second stent is located within said first stent;

expanding said second stent such that said distal portion of said second stent supports the second outlet portion and said proximal portion of said second stent engages an inner surface of said wall of said first stent in a flange-like arrangement.

20 (currently amended): A method as defined in claim 19 wherein inserting a second stent comprises inserting a second stent having struts of varying length along the length of said

Applicant : Jihad A. Mustapha
Serial No. : 10/773,709
Page : 7

second stent, and wherein the length of said struts in said proximal portion of said second stent is greater than the length of said struts of said distal portion of said second stent.

21 (new): A method as defined in claim 19 wherein expanding said second stent comprises expanding said second stent via a balloon having a distal balloon portion having a first diameter when inflated and a proximal balloon portion having a second diameter when inflated, said second diameter being greater than said first diameter.

22 (new): A method as defined in claim 21 wherein:

said distal balloon portion is ovoid shaped and has a length dimension that is greater than its diameter dimension; and

said proximal balloon portion is bulbously shaped and has a diameter dimension that is greater than its length dimension.

23 (new): A method as defined in claim 21 wherein said distal and proximal balloon portions are integrally connected to one another, whereby inflation of said balloon results in inflation of both portions of said balloon.